

  
Wharfedale  
Pro



**SERIES**

**SUBWOOFER SYSTEMS**



**SH1500 - SH1800 - SH2800**

**OWNER'S MANUAL**



# **SHO Series Subwoofers**

## **OWNER'S MANUAL**

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## **Important Warnings & Safety Instructions**

- 1. READ ALL INSTRUCTIONS** carefully and become familiar with the features and functions of these products before operating them.
- 2. RETAIN THESE INSTRUCTIONS** for future reference.
- 3. COMPLY WITH ALL WARNINGS –**  
All warnings and instructions for this product should be adhered to.
- 4. USE WITH AMPLIFIERS –** In order to avoid damage to drivers and other equipment, it is advisable to establish and follow a routine for powering up and powering down a sound system. With all system components connected, turn on source equipment (mixers, signal processors, record and playback units, etc.) **BEFORE** powering up amplifiers. Transient voltages from powering up source equipment can damage speakers if amplifiers are already turned on. Make sure that amplifier volumes are set to their minimum settings and power up any system amplifiers **LAST**. It is recommended that all system components be allowed to stabilize for several seconds before any source signals are introduced or level setting adjustments are made. Similarly, when shutting systems down, turn all amplifiers off first, before powering down any other system components.
- 5. CABLES –** Do not use shielded or microphone cables for connection between amplifiers and speakers. Use only approved speaker cables with proper connectors.
- 6. RIGGING – SUSPENDING – MOUNTING –** Rigging, suspending and mounting of these speaker systems can expose members of the public to serious health risks and even death. **UNDER NO CIRCUMSTANCES ATTEMPT TO RIG, SUSPEND OR OTHERWISE MOUNT THESE SPEAKERS UNLESS YOU ARE FULLY QUALIFIED AND CERTIFIED TO DO SO BY RELEVANT LOCAL, STATE AND NATIONAL AUTHORITIES. ALL RELEVANT SAFETY REGULATIONS MUST BE FOLLOWED. IF YOU ARE NOT PROPERLY QUALIFIED OR DO NOT KNOW OF PERTINENT REGULATIONS, CONSULT QUALIFIED PERSONNEL FOR ADVICE.**
- 7. CAUTION –** These professional loudspeaker systems are capable of generating very high sound pressure levels. Use care with placement and operation to avoid exposure to excessive volume levels. Permanent hearing damage can result when operated to extreme levels.
- 8. SERVICE –** There are no user serviceable parts inside this product. Users should not attempt to service this product. Warranty nullification could result if this is attempted.



## Thank You

Wharfedale Pro SHO Series Loudspeakers are the result of many years of experience in the use, design and manufacturing of professional loudspeaker products. We take great pride in engineering and building every Wharfedale Pro loudspeaker and wish to thank you for entrusting us with your sound.

Please take a few minutes to read this manual completely in order to ensure that you get the most out of your SHO Series loudspeakers.

## SHO Series Overview

In the SHO Series, Wharfedale Pro offers a complete range of solutions for a wide variety of sound reinforcement and public address applications. From small club systems to large indoor and outdoor venues, there's a SHO Series combination for each.

SHO Series full-range cabinets are available in 12-inch two-way, dual 12-inch two way, 15-inch two-way or dual 15-inch two-way configurations. Each is fitted with fly points for suspension in touring or permanent installations, and a recessed pole-mounting well to facilitate pole or stand mounting. Completing the SHO Series is a 12-inch, 2-way monitor wedge and a choice of three high-power subwoofers.

## SHO™ Model Descriptions

### Full Range, 2-way Loudspeaker Systems

SH1294	One 12-inch Driver + 90 x 40 Horn
SH2264	Two 12-inch Drivers + 60 x 40 Horn
SH2296	Two 12-inch Drivers + 90 x 60 Horn
SH1564	One 15-inch Driver + 60 x 40 Horn
SH1596	One 15-inch Driver + 90 x 60 Horn
SH2564	Two 15-inch Drivers + 60 x 40 Horn
SH2596	Two 15-inch Drivers + 90 x 60 Horn

### Stage Monitor Wedge Loudspeaker

SH1294M	One 12-inch Driver + 90 x 40 Horn
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### Subwoofer Systems

SH1500	One 15-inch Driver
SH1800	One 18-inch Driver
SH2800	Two 18-inch Drivers



## Why SHO?

The SHO Series from IAG is a complete professional audio transducer system. Each component and design element was developed at the same time. No previous designs or "off the shelf" transducers were used. As a result, each element was optimized for a single purpose, which is to be one of the most versatile and accurate sound reinforcement systems available. Low frequency transducers, high frequency transducers, wave guides, and enclosures were all designed together with each element optimized for seamless interaction with other elements in the overall system.

### Low Frequency Transducers

The SHO Series transducers represent many advancements in the state of the art. The most obvious aspect of the 12 inch, 15 inch and 18 inch low frequency transducers is the very large format 5 inch (127mm) diameter voice coil. The current industry standard for truly professional woofer and full range loudspeakers is a 4 inch diameter (100mm) voice coil. The 5 inch SHO voice coil technology is used in combination with a Finite Element Modeled Neodymium Iron Boron magnet structure that provides very high acoustic output and efficiency while minimizing weight.



### WHY SUCH A BIG VOICE COIL?

For equal coil heights, the SHO voice coil represents a 25% larger area. Because both power handling and power compression (cooling) depend on the power per a given unit area, the 25% area advantage of the SHO woofers represents significant performance advantages of superior power compression and superior power handling and reliability.

### THERMAL MANAGEMENT SYSTEM

In addition to the ultra large format voice coil, the SHO Series design utilizes a very unique heat sink that effectively couples the heat generated in the transducers magnet gap and further reduces thermal rise on the voice coil. The geometry of the "thermal forest" heat sink provides a large surface area for additional thermal radiation. The physical placement of the heat sink under the moving suspension element provides active air flow across the heat sink, further reducing the already low thermal rise.



The dual spider configuration also provides a thermal path away from the voice coil. The spiders are spaced apart and a unique venting geometry between the two spiders allows higher temperature air to vent to the outside.



The combination of active cooling and ultra large surface area provide aggressive control of the higher losses of efficiency found in other loudspeakers. The SHO Series woofers offer best-in-class thermal management.

### **MAXIMUM SPL AND MAXIMUM LINEARITY (THE SUSPENSION SYSTEM)**

The SHO transducers are also unique in the way they maximize linear output. The suspension system that connects the cone to the frame, or basket, has two basic functions. The first is to allow the cone and coil to move freely on axis, but control motion that could produce system failure. The second function is to act as a restoring force for the cone and coil assembly. A wide suspension will allow the cone and coil to move further in a linear fashion, producing a more linear and distortion free response at high sound pressure levels. Many competitive woofers utilize wide suspension systems in an effort to increase the linear travel and increase the volume velocity of the device.

These wide suspension systems usually reduce the radiating surface of the system in the process. The displacement is improved but the volume velocity is not maximized. A transducer increases its acoustic output by increasing what is known as the "volume velocity" of the system. The radiating element, the cone, consists of a cross sectional area that moves forward with some velocity. The combination of the area, moving forward with some velocity, generates a volume velocity (area times distance). When the suspension system is made wider and the surface area of the cone smaller, to accommodate the wider suspension, the linear travel (or displacement) may be increased but the reduction in the surface area does not allow for a maximized overall linear volume velocity.



The SHO design does not make this compromise. The surface area of each transducer is not sacrificed for a wider suspension. The SHO Series transducers provide BOTH a large radiating surface area AND a wider suspension. The SHO suspension is a full 50% wider than typical pro audio woofers. The combination of a large radiating area and a wide suspension mean that the SHO Series produce world class LINEAR reproduction.

#### **BUT SOME COMPANIES SAY THEIR WOOFERS CAN MOVE 2 INCHES (50.8mm).**

The key to world class performance is not how far a suspension can travel. The key is the linear travel of the system. This linear travel, or displacement, is known as  $X_{max}$  and is a measure of linear travel, not maximum travel. The linear travel of the system must then be combined with the transducer efficiency. A competitive woofer with high linear travel but low efficiency still won't produce high sound pressure levels at low distortion.

The SHO Series was designed to provide BOTH high linear travel (very low distortion and excellent intelligibility) AND high Sound Pressure Level performance.

#### **MORE ABOUT THE SUSPENSION SYSTEM**

There are two levels of suspension for any loudspeaker. The suspension is one of the two. The other is the "spider". This suspension element is behind the cone and also acts to both control the centering of the voice coil and provide damping for the overall mechanical system. Typically these spiders are no wider than a conventional cone suspension and, as a consequence, also act to limit the linear travel of the system.

Once again, the SHO transducers offer a unique solution. Although dual spiders are not unique, the venting between the two spiders add another degree of cooling to the voice coil. Also, because the spiders are much wider than typical pro audio woofer spider design, they allow for additional linear travel



## BUT WHY TWO SPIDERS?

DUAL SPIDER DESIGN WITH THERMAL VENTS

The spiders and cone surround, as mentioned above, act to control motion in directions other than the main axial motion of the cone and coil assembly. High performance racing engines use more bearings than a normal engine because, at elevated performance levels, the stresses on the system are higher. The SHO Series was designed for ultra high performance applications and because both the cone surround and spider act just like bearings, the SHO transducers utilize more "bearings" than a conventional pro audio woofer.

## WHAT ABOUT SONIC QUALITY?

Although all of the items discussed above relate to sonic quality and performance, there are additional details that separate the SHO Series from competitive pro audio woofers.

There are many basic performance parameters that can be used to describe a transducer's behavior. Two of the most important parameters are the steady state performance and the time domain performance. Steady state performance parameters are things like frequency response, harmonic distortion, etc. These specifications are dealt with in almost all pro audio spec sheets.

Particular attention was paid to time domain performance characteristics during the design and development of the SHO Series transducers. These time domain distortions act to "color" the tonal accuracy of any transducer and controlling them can provide a huge improvement in intelligibility. Time domain performance issues have been identified and discussed in the technical literature for 70 years or more but most pro audio manufacturers pay little attention to this all important aspect of system performance.

In addition to mechanical control of the suspension elements, the SHO transducers were designed using the latest technologies in high internal damping cone materials. These proprietary materials provide excellent time domain response for excellent vocal detail as well as high strength for high reliability. The SHO Series low frequency transducers integrate all significant performance aspects of professional audio devices into a truly state of the art design.



## SH1500 Overview

The SH1500 is a rugged, high-power subwoofer system, designed for demanding sound reinforcement and audio playback applications. The 15" low frequency driver combines 96dB sensitivity with 1000 Watts (continuous) power handling, to deliver low frequency sound pressure levels well beyond those typical of systems its size.

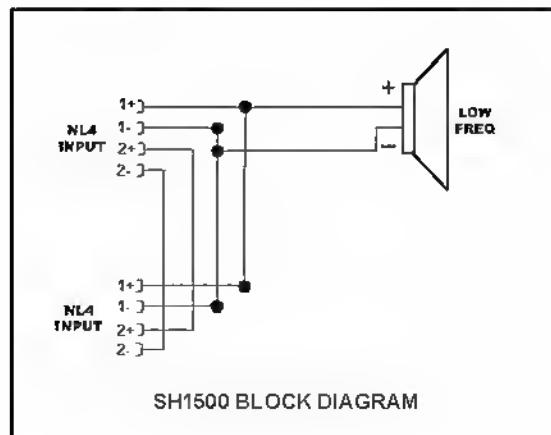


### Features:

- 1 x 15" LF driver, with true 15" piston diameter
- 5" LF voice coil for high power handling and reliability
- High efficiency, 96dB (2.83V/1 meter) sensitivity
- Advanced thermal management for superior reliability

### Applications:

- Auditoriums
- Sports facilities
- Houses of worship
- Theatre and performing arts facilities
- Live clubs
- Dance clubs



### System Configurations

SHO Series speakers offer the flexibility needed to meet a wide variety of system needs.



## SH1800 Overview

The SH1800 is a rugged, high-power subwoofer system, designed for demanding sound reinforcement and audio playback applications. The 18" low frequency driver combines 98 dB sensitivity with 1000 Watts (continuous) power handling, to deliver low frequency sound pressure levels well beyond those typical of systems its size.

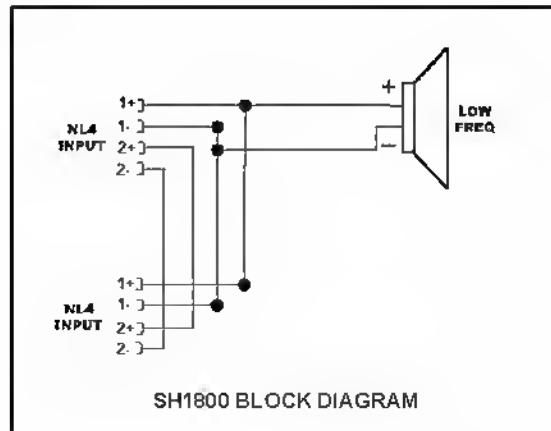


### Features:

- 1 x 18" LF driver, with true 18" piston diameter
- 5" LF voice coil for high power handling and reliability
- High efficiency, 98dB (2.83V/1 meter) sensitivity
- Advanced thermal management for superior reliability

### Applications:

- Auditoriums
- Sports facilities
- Houses of worship
- Theatre and performing arts facilities
- Live clubs
- Dance clubs



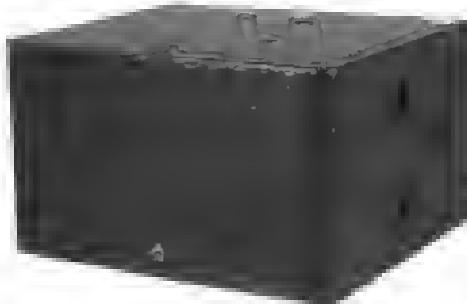
### System Configurations

SHO Series speakers offer the flexibility needed to meet a wide variety of system needs.



## SH2800 Overview

The SH2800 is a rugged, high-power subwoofer system, designed for demanding sound reinforcement and audio playback applications. The dual 18" low frequency drivers combine 102dB sensitivity with 2000 Watts (continuous) power handling, to deliver low frequency sound pressure levels well beyond those typical of systems its size.

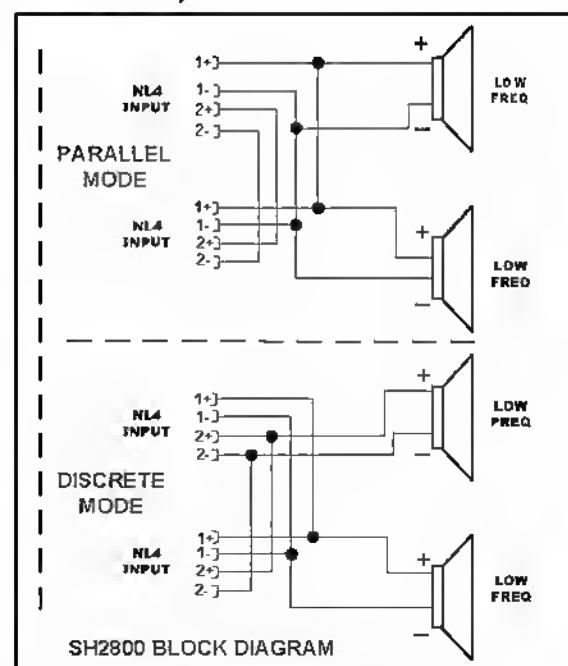


### Features:

- 2 x 18" LF driver, each with true 18" piston diameter
- 5" LF voice coils for high power handling and reliability
- High efficiency, 102dB (2.83V/1 meter) sensitivity
- Advanced thermal management for superior reliability

### Applications:

- Auditoriums
- Sports facilities
- Houses of worship
- Theatre and performing arts facilities
- Live clubs
- Dance clubs



### System Configurations

SHO Series speakers offer the flexibility needed to meet a wide variety of system needs.



## Setting Up

Your SHO Series subwoofer is designed to augment the Low Frequency Sound Pressure Level (LF-SPL) capabilities of Wharfedale Pro SHO Series loudspeakers, or other full-range cabinets. The top surface of the SHO Series subwoofer enclosure incorporates a rugged, threaded socket which accepts a Wharfedale Pro SHO Series pole mount accessory. This rugged steel pole mount, which is finished in black paint, is 34 5/8 inches (880 mm) tall and has a diameter of 1 3/8 inches (35mm). The subwoofer/pole combination makes the ideal support for any of the SHO Series full-range cabinets, providing both a stable foundation and rock-solid LF output for greatly increased total acoustic power output.



Threaded Pole Mount Socket

## Speaker Placement

The SHO Series Subwoofers are meant to be positioned on a large, solid surface, such as a floor or stage. Make sure that the surface is sufficiently solid that it cannot resonate when subjected to the potentially massive LF output of the SHO subwoofer. A concrete surface is ideal. If possible, test the installation, after all connections are made, by slowly sweeping the subwoofer's frequency range with a variable frequency sine-wave generator, test recording, or even a keyboard, to determine if anything in the room needs to be secured, or the loudspeaker placement changed, to avoid annoying resonances, rattles or buzzes. Such noises may be highly audible, but other resonances, such as those in large ceiling, wall or window surfaces, may not be so noticeable. They may, however, act as bass traps, attenuating the subwoofer's output.

The placement of SHO Series subwoofers in a room can have a significant effect on the output. If the speaker were to be raised off the floor (not recommended) the decoupling from the "half-space" loading of the floor's plane would result in lower SPL output. Similarly, its output increases if the speaker is placed at the intersection of two planes ("quarter space"), such as the floor and a wall, and increases even more if placed in a corner, where three planes intersect ("eighth space"). While this means less power is required to achieve a given SPL, the added output is not necessarily linear in frequency, so EQ may be required to reduce some frequencies, and provide a suitable tonal balance. If at all possible, experiment with subwoofer placement to determine where the best location will be for producing clean, solid LF output.



## WIRING

### Wire Gauge Recommendations

As a rule, size matters when it comes to speaker cable. The smaller the diameter of a speaker cable's conductors the more resistance they present to signal flow, and the more they prevent power from being efficiently delivered to the loudspeaker. Increasing the length of a cable also increases resistance. Therefore, longer cable lengths increase the need for a larger gauge, or conductor diameter. A wire gauge that is too small will decrease the power amplifier's damping control, changing a nice *tight* low-end response to a *muddy* sound.

#### Recommended Speaker Wire Gauge

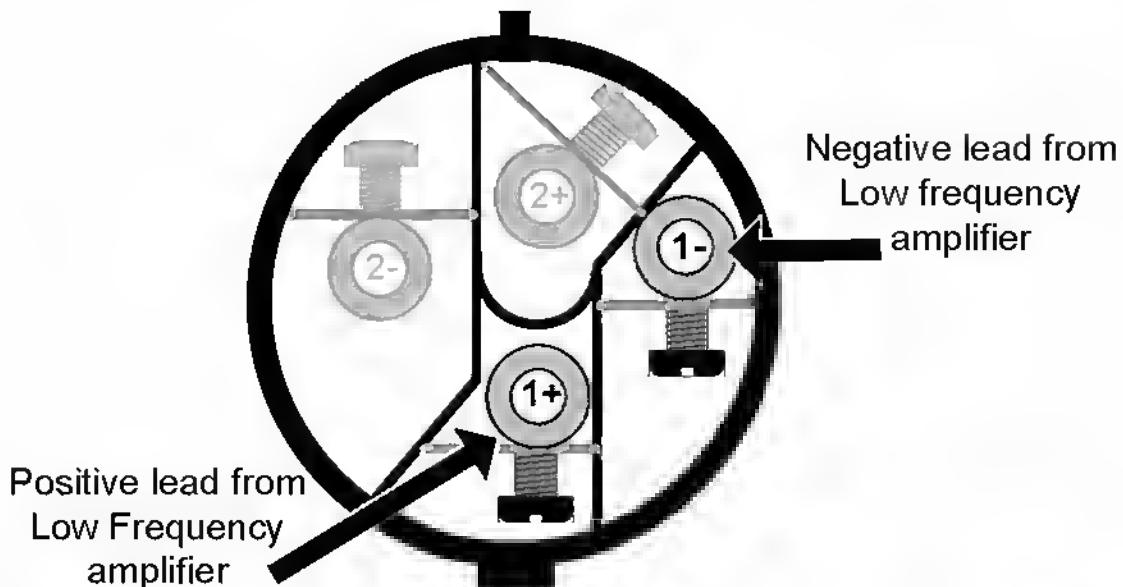
Cable Length	Minimum Gauge
Less than 100 feet	14 gauge
100 to 250 feet	12 gauge

Note: A wire gauge with a smaller number indicates a larger conductor diameter. Keep speaker cables as short as practical. Cable lengths above 250 feet are not recommended. In many cases, it is preferable to locate amplifiers close to the loudspeakers and run a balanced, line-level signal from the mixing position to the amplifiers.

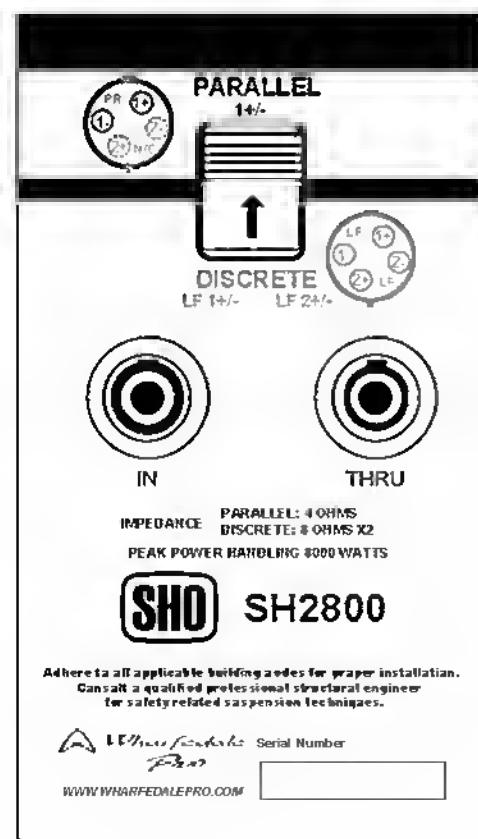
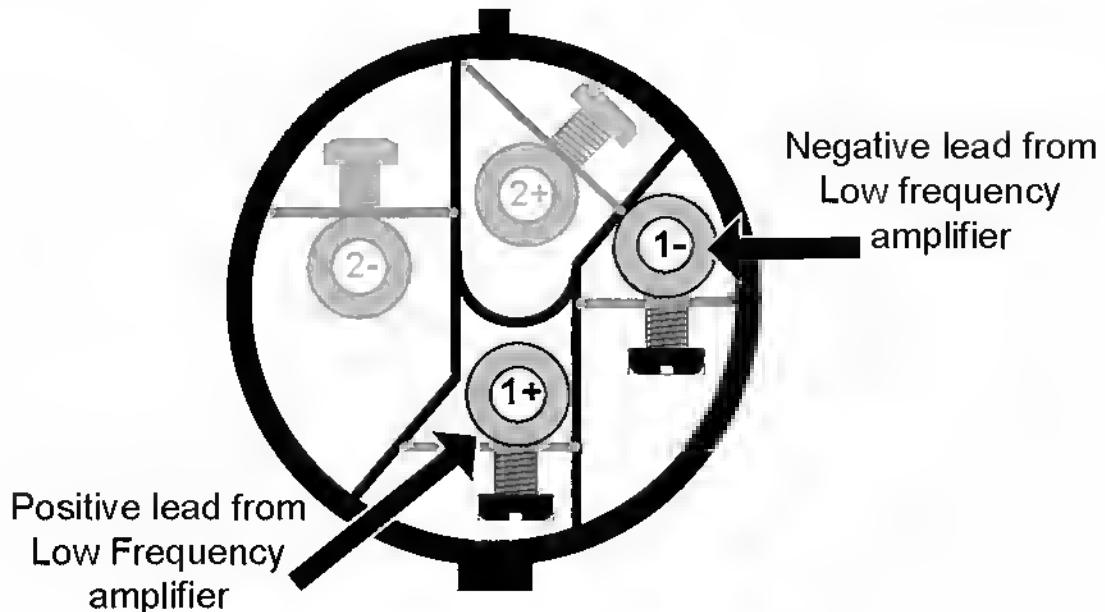
### SHO Series Subwoofer wiring

Connect the output of the powering amplifier connectors to the SHO Series Subwoofer's NL4MP Speakon® connector using a Neutrik® NL4FC inline Speakon connector. The positive terminal of the power amplifier must be connected to Pin 1+ of the NL4FC and the amplifier's negative terminal must be wired to Pin 1- of the NL4FC.

## SH1500 & SH1800 NL-4 Wiring Configuration

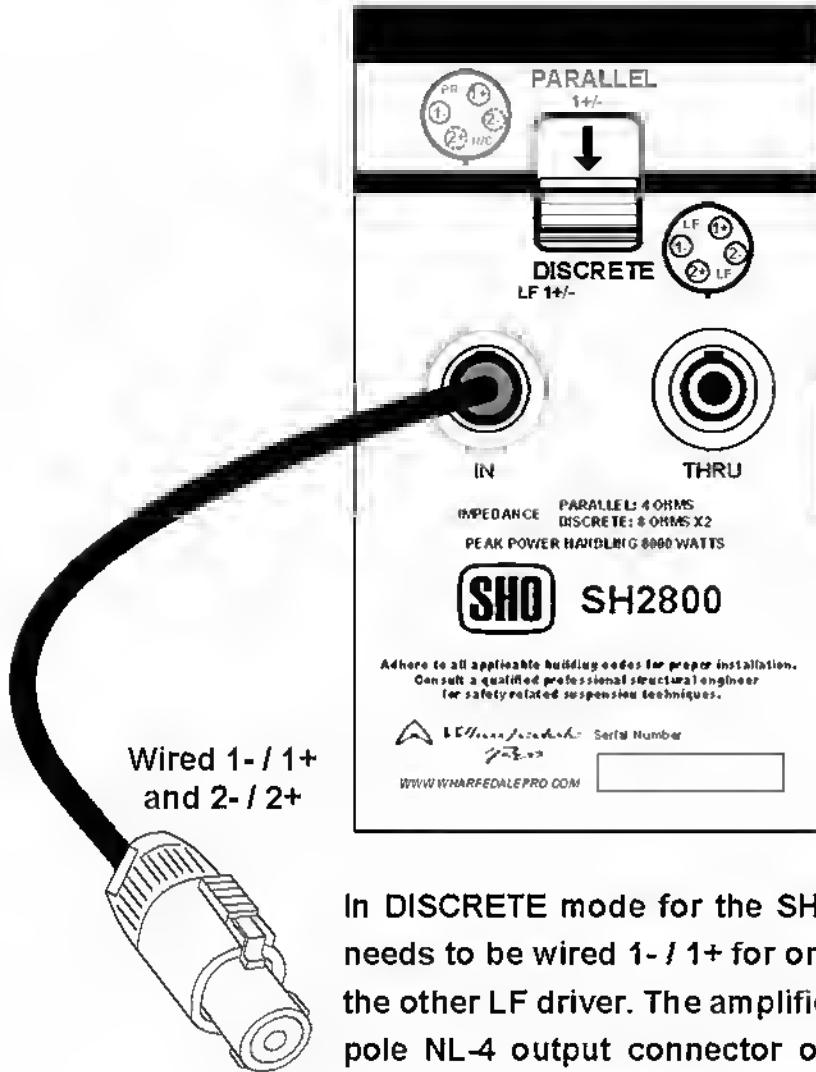


## SH2800 Standard NL-4 Wiring Configuration

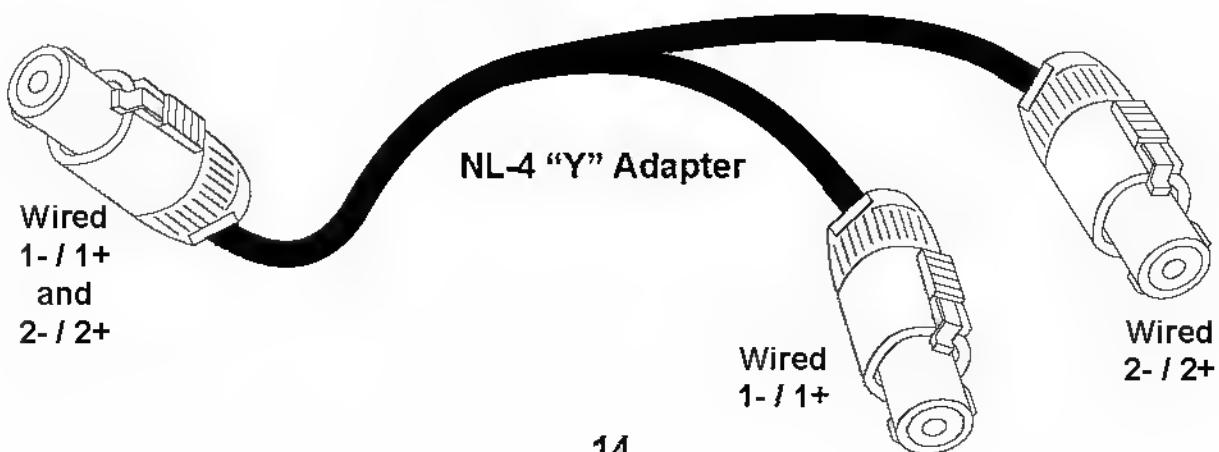




## SH2800 Discrete Mode NL-4 Wiring



In DISCRETE mode for the SH2800, the NL-4 connector needs to be wired 1- / 1+ for one LF driver and 2- / 2+ for the other LF driver. The amplifier needs to have either a 4 pole NL-4 output connector or a NL-4 "Y" adapter (as shown below)



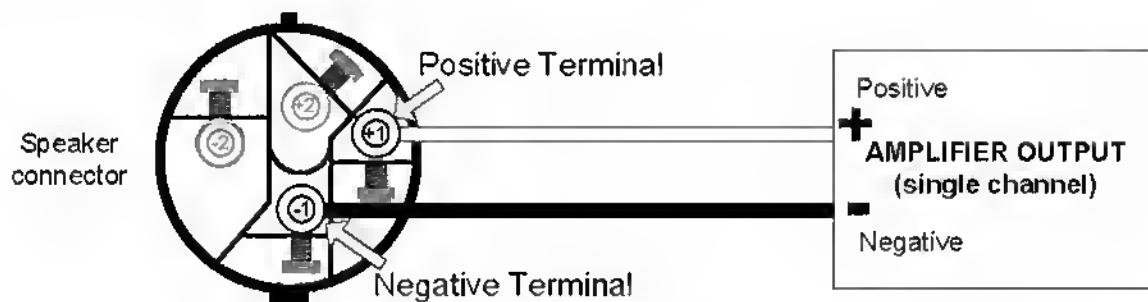
## Polarity

### Maintaining Correct Polarity – In-phase/Out-of-phase

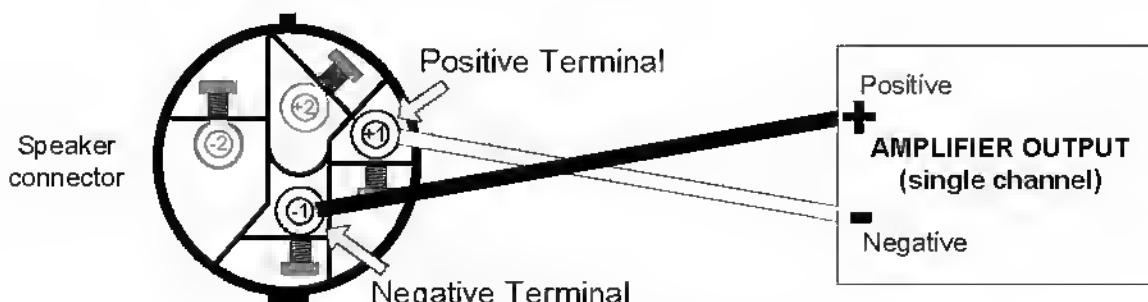
It is important that correct polarity be observed when connecting your loudspeakers to an amplifier's outputs. That is, the Positive (+) terminal of the amplifier must connect to the like terminal of the speaker, and the Negative (-) terminal of the amplifier to the like terminal of the loudspeaker.

If one speaker is wired so that the polarity is reversed, relative to the wiring of another (Positive to Negative), then the speakers are said to be reversed in polarity, or often called "out of phase." When this occurs, with two loudspeakers in a system, the outputs of the two speakers will cancel each other at some frequencies. The effect will be most obvious at low frequencies, but the point below which sounds are cancelled will rise higher in the spectrum as the loudspeakers are moved closer to each other, resulting in increasing cancellation and poorer sound quality.

The loss of output cannot be corrected with equalization, but is easily remedied by correcting the reversed wiring at one connector.



"IN PHASE"



"OUT OF PHASE"



## Power Amplifier Considerations

Your SHO Series loudspeaker is capable of delivering excellent performance from a wide variety of power amplifiers. But here are a few guidelines that will help you maximize your speaker system's performance and extend its years of service.

The loudspeaker's sensitivity rating indicates that it is capable of delivering 96 dB SPL from just one Watt of amplifier power. For optimum performance in a full-range configuration, you may use an amplifier that is capable of delivering a continuous 1000 Watts of power into 8 Ohms. For bi-amping, the HF power handling is 75W and the LF power handling is 1000W.

As much as possible, avoid boosting frequencies with an equalizer, or at the very least, limit the amount of frequency boost you apply. Keep in mind that if you boost a frequency region just 6 dB, you are asking the power amplifier to deliver 4 times the power to the loudspeaker in that particular portion of the spectrum. Even if the loudspeaker is capable of handling the power, the amplifier may have trouble delivering it, causing the signal's waveforms to be "clipped," or distorted. This kind of distortion may overheat a driver's voice coil and cause a premature failure.

Often, when we perceive a loudspeaker's output to have too little low-frequency output, it is because the speaker is delivering too much high-frequency output. Too little of a portion of the spectrum is much harder to accurately detect than too much. If you are equalizing by ear and feel that the highs are lacking, instead of boosting the highs with an equalizer, try using it to reduce the lows, or some portion of the spectrum that may be overpowering the highs. Similarly, if your system seems to have insufficient low-frequency output, try reducing the highs.<sup>1</sup>

## Loudspeaker Protection with a High-Pass Filter

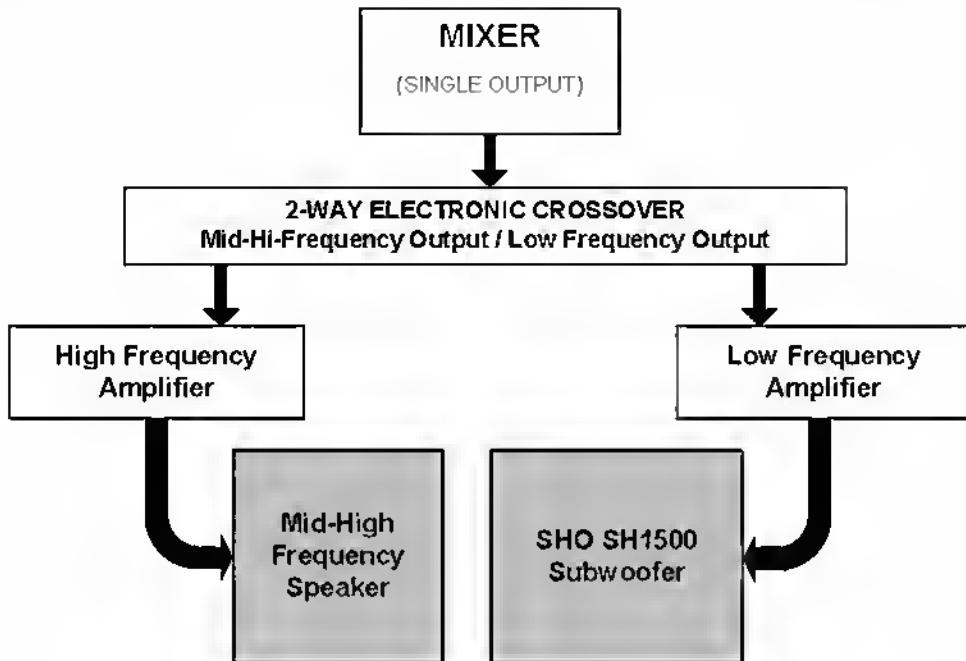
More is not always better. This may be especially true in relation to low frequencies. In fact, attempting to force a loudspeaker to deliver frequencies that are lower than its rated range may muddy the LF output or even damage the loudspeaker. If your amplifier, equalizer or another signal processor ahead of the loudspeaker, such as an electronic crossover, incorporates a low-frequency roll-off (high-pass filter), adjust it to prevent frequencies below the speaker's specified range from passing. Not only will you protect the loudspeaker, but you will likely notice a cleaner LF response.

<sup>1</sup> Note that a low-frequency deficiency may simply mean that the type of program material you are putting through the system requires a subwoofer to do it justice. Also, a system's low-frequency capabilities are dependent upon other factors, including the amount of power the amplifier is capable of delivering, speaker placement, room size and acoustics, and even the location of the listening position.



## Connections

The following diagrams illustrate the typical wiring diagrams for systems employing the SH1500 subwoofer.



NOTE: This diagram represents one channel of a stereo sound system. This setup would be duplicated for the second channel.

In this example, the full range signal passes through a two-way electronic crossover which divides the audio spectrum into two frequency bands (high frequency and low frequency) at a user-defined crossover point . Those frequencies below the crossover point are sent to the power amplifier, or amplifiers, that power the subwoofer(s). Frequencies above the crossover frequency are delivered to the amplifiers that power the full-range cabinets. This configuration is known as “bi-amping”.

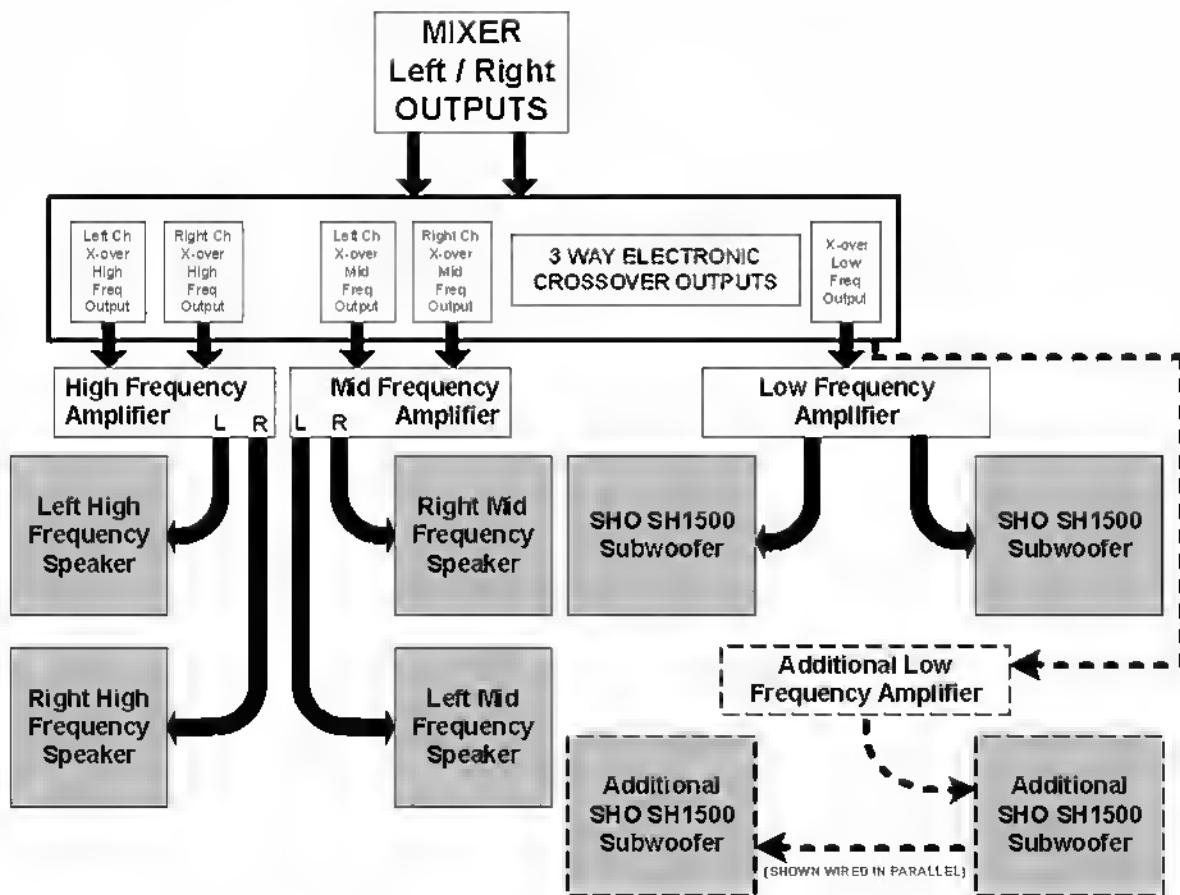
The crossover point between the SH1500 and SHO full range cabinets should be set to 150 Hz or lower for best performance.

In the same way, an electronic crossover may be used to divide the spectrum above the subwoofer frequencies into low/midrange and high frequencies, sending the two signals to separate amplifiers to drive the cabinet's LF and HF drivers.



## Connections (cont.)

The two crossover functions may be performed by one 3-way crossover, or by two 2-way crossovers. These crossover functions may take place in a dedicated component, in a rack of gear, or may be easily handled within the "Digital Signal Processing" (DSP) capabilities of a digital mixer or outboard, multifunction DSP device, which may also offer other functions such as matrix mixing, equalization, delay, etc.

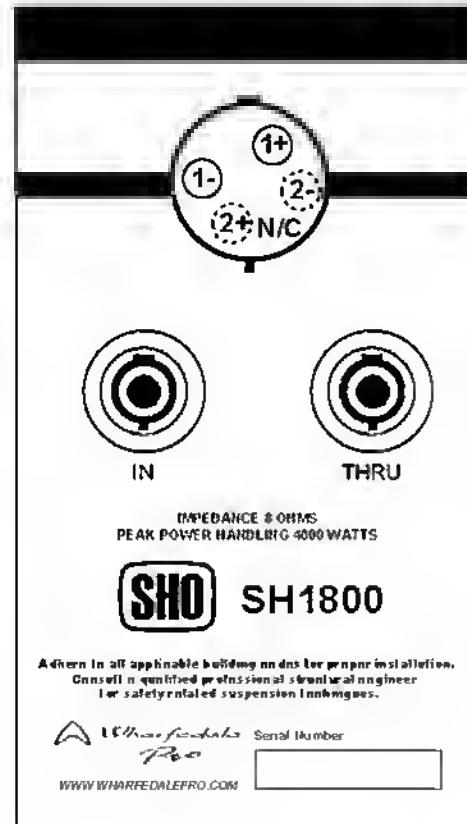
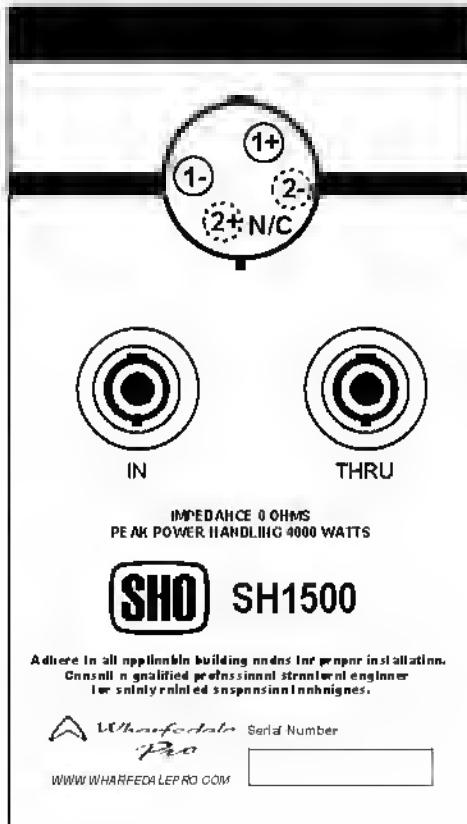


### USING A STEREO SOUND SYSTEM WITH DUAL 3-WAY ELECTRONIC CROSSOVERS



## SHO Series Subwoofer Connection Plates

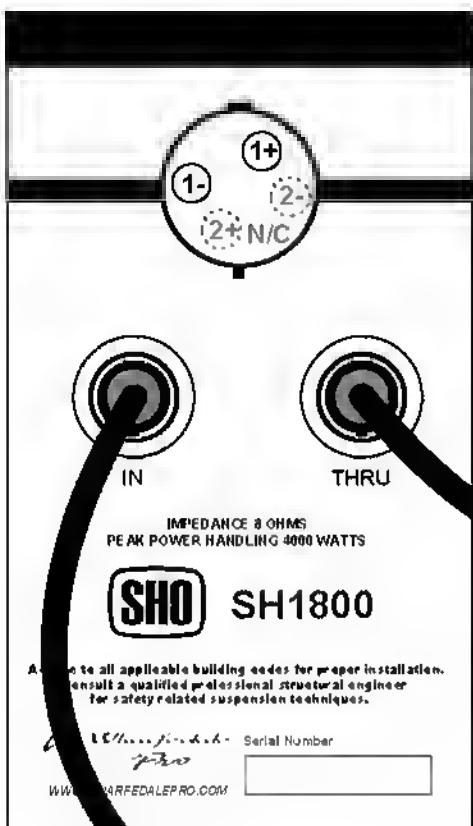
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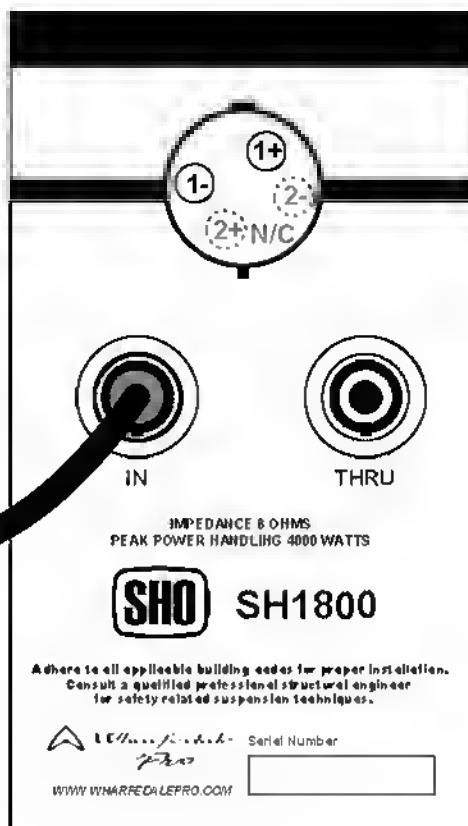


## Parallel Connection of two subwoofers

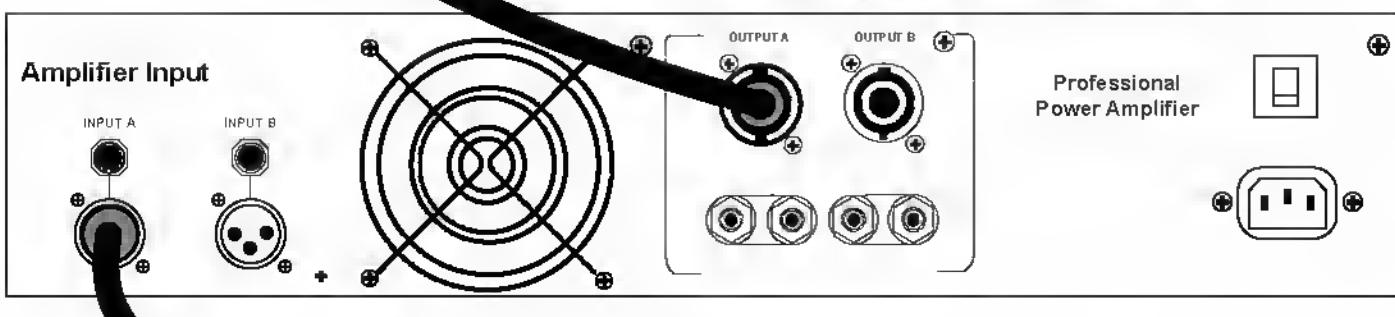
Subwoofer #1



Subwoofer #2



Amplifier Output (single output channel shown)





## SPECIFICATIONS

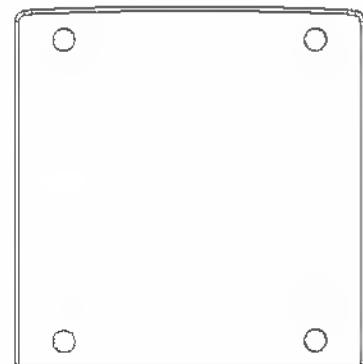
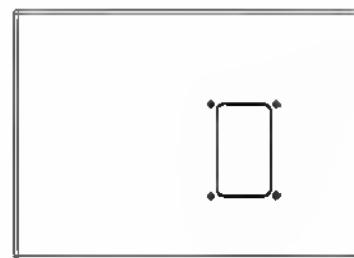
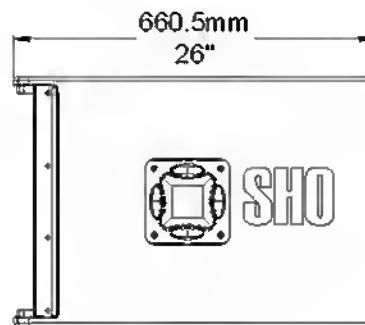
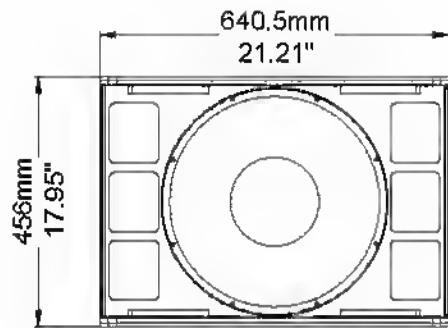
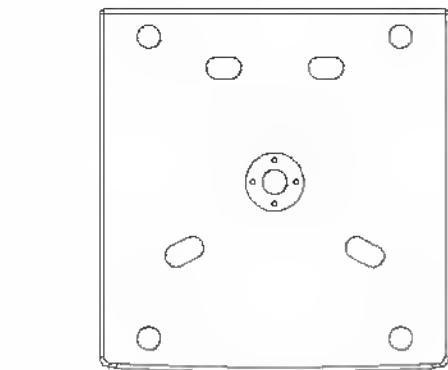
## SH1500

<b>Frequency Response</b>	45Hz-200Hz
<b>Crossover Frequency</b>	150Hz max
<b>Power Rating</b>	
<b>Continuous</b>	1000 W
<b>Program</b>	2000 W
<b>Peak</b>	4000 W
<b>Sensitivity (2.83V@1m)</b>	96 dB
<b>Low Frequency Driver</b>	1x15"
<b>Voice Coil Size / Magnet Material</b>	Voice Coil 5 " / NdFeB
<b>Nominal Impedance</b>	8 ohms
<b>Dimensions</b>	
<b>(H x W x D)</b>	456mm x 640.5mm x 660.5mm 17.95" x 25.21" x 26"
<b>Construction Material</b>	18mm plywood
<b>Finish</b>	Black Paint
<b>Handle Quantity</b>	2
<b>Net Weight</b>	44kg 96.8 lbs
<b>Gross Weight</b>	48kg 105.6 lbs



## DIMENSIONS

**SH1500**



**Net Weight** 44kg  
96.8 lbs

**Gross Weight** 48kg  
105.6 lbs



## SPECIFICATIONS

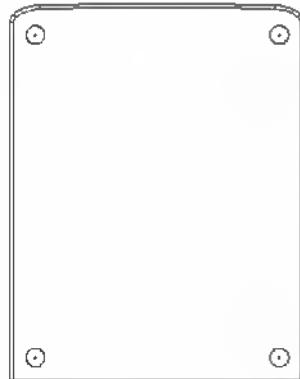
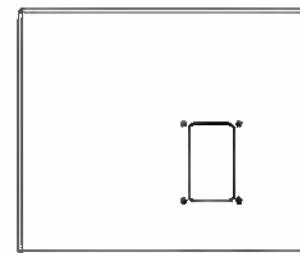
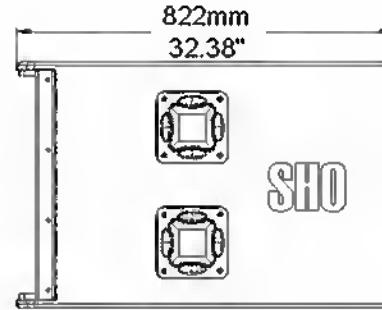
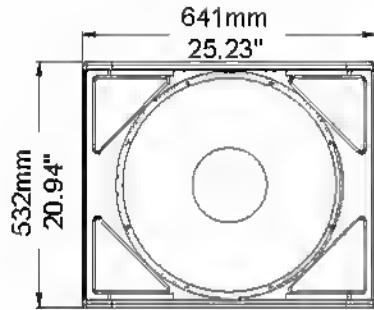
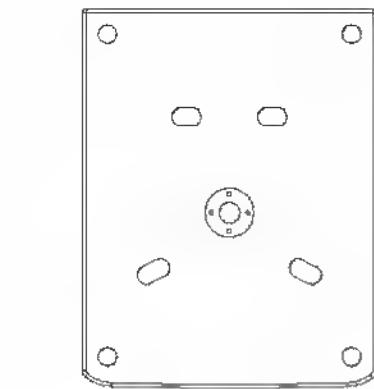
## SH1800

Frequency Response	42Hz-300Hz
Crossover Frequency	150Hz max
Power Rating	
Continuous	1000 W
Program	2000 W
Peak	4000 W
Sensitivity (2.83V@1m)	98 dB
Low Frequency Driver	1x18"
Voice Coil Size / Magnet Material	Voice Coil 5"/ NdFeB
Nominal Impedance	8 ohms
Dimensions	
(H x W x D)	532mm x 641mm x 822mm 20.94 " x 25.23" x 32.38"
Construction Material	18mm plywood
Finish	Black Paint
Handle Quantity	4
Net Weight	50.5kg 111.1 lbs
Gross Weight	62.5kg 137.5 lbs



## DIMENSIONS

**SH1800**



**Net Weight** 50.5kg  
111.1 lbs

**Gross Weight** 62.5kg  
137.5 lbs



## SPECIFICATIONS

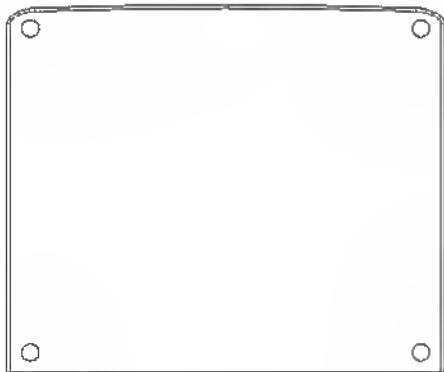
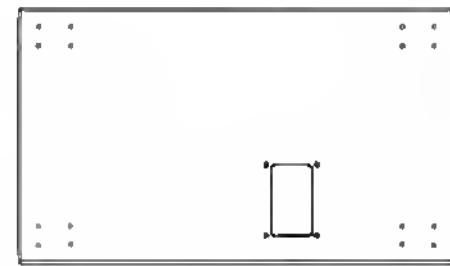
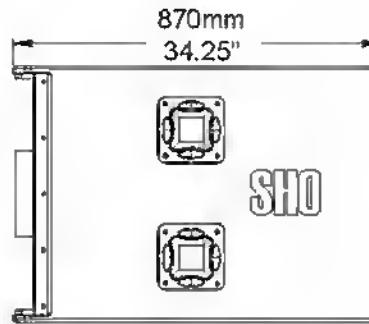
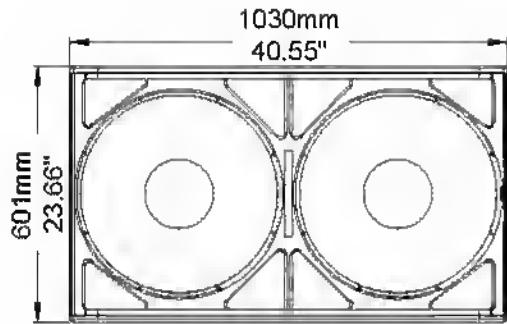
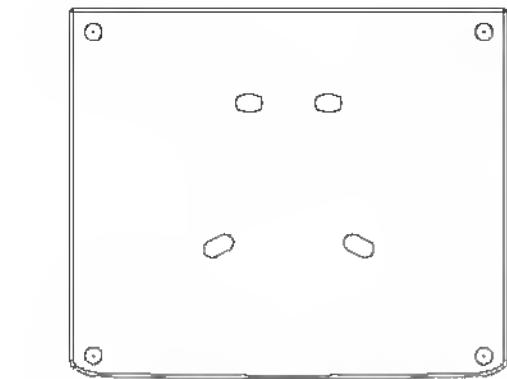
## SH2800

Frequency Response	35Hz-300Hz
Crossover Frequency	150Hz max
Power Rating	
Continuous	2000 W
Program	4000 W
Peak	8000 W
Sensitivity (2.83V@1m)	102dB
Low Frequency Drive	2x18"
Voice Coil Size / Magnet Material	Voice Coil 5" / NdFeB
Nominal Impedance	4 ohms / 8 ohms
Dimensions	
(H x W x D)	601mm x 1030mm x 870mm 23.66" x 40.55" x 34.25"
Construction Material	18mm plywood
Finish	Black Paint
Handle Quantity	4
Net Weight	94kg 206.8 lbs
Gross Weight	113kg 248.6lbs



## DIMENSIONS

### SH2800



**Net Weight** 94kg  
206.8 lbs

**Gross Weight** 113kg  
248.6 lbs

### **Wharfedale Pro Limited Warranty \***

Wharfedale Pro loudspeakers are warranted to the original purchaser against manufacturing or materials defects for a period of three years from the original date of purchase. Faults arising from misuse, unauthorized modifications or accidents are not covered under this warranty. No other warranty is expressed or implied.

In the event of malfunction, contact your authorized Wharfedale Pro dealer or distributor for information.

\*Be aware that warranty details may differ from country to country. Contact your dealer or distributor for information



Wharfedale International Limited  
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Wharfedale Pro is a member of the International Audio Group  
[www.wharfedalepro.com](http://www.wharfedalepro.com)



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